Exhibit R-2, RDT&E Budget Item Justification									DATE: June 2001	
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/07						**R-1 ITEM NOMENCLATURE** Defense Information Infrastructure Engineering & Integration/PE 0302019K				
COST (in millions)	FY00	FY01	FY02						Cost to Complete	Total Cost
Total PE Cost: PE 0302019K	4.621	6.773	6.544						Contg	Contg
DII Systems Engineering and Support/T62	1.956	2.206	1.583						Contg	Contg
Modeling & Simulation/E62	2.665	4.567	4.961						Contg	Contg

A. <u>Mission Description and Budget Item Justification</u>: This program element funds efforts involving the following areas: the development and fielding of the Defense Information Infrastructure (DII) Common Operating Environment (COE), engineering support of the DII including resolution of critical interoperability and technical integration issues, and the assessment of C4I initiatives that reside on the DII COE to ensure compatibility, interoperability and technical integration. This program element is under Budget Activity 07 because it involves efforts supporting operational systems development.

This administration has not addressed FY 2003-2007 requirements. All FY 2003-2007 budget estimates included in this book are notional only and subject to change.

B. <u>Program Change Summary</u>:

	FY 00	FY 01	FY 02
Previous President's Budget (FY 2001)	3.421	5.704	5.961
Appropriated Value	5.316	5.704	
Adjustments to Appropriated Value	-.695	1.069	
Adjustments to Budget Year Since FY 2001 President's Budget			.583
Current Budget Submit/President's Budget (FY 2002)	4.621	6.773	6.544

Exhibit R-2, RDT&E Budget Item Justification	**DATE:** June 2001
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/07	**R-1 ITEM NOMENCLATURE** Defense Information Infrastructure Engineering & Integration/PE 0302019K

Change Summary Explanation:

FY 2000 change due to below threshold reprograming.
FY 2001 change due to congressional rescission and below threshold reprogramming.
FY 2002 change reflects increase to support initiatives of growing importance including the ramifications of
     securing applications and data in a web environment.

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Exhibit R-2a, RDT&E Project Justification				DATE: June 2001	

APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/07	PROGRAM ELEMENT DII Engineering & Integration/PE 0302019K	PROJECT NAME AND NUMBER DII Systems Engineering and Support/T62

COST (in millions)	FY00	FY01	FY02						Cost to Complete	Total Cost
Project Cost	1.956	2.206	1.583						Contg	Contg

A. Mission Description and Budget Item Justification: Efforts under this project will strengthen critical Defense Information Infrastructure (DII) foundation technologies and programs through application of precise, short-term, technical, engineering and integration expertise. Provides expertise in support of the major DII components, which include: DII Common Operating Environment (COE), COE Data, Defense Information System Network (DISN), Defense Message System (DMS) and medium grade messaging, Global Combat Support System (GCSS), Global Command and Control System (GCCS), DoD Directory, DII Public Key Infrastructure (PKI), DII Control Concept (DIICC), enterprise management, Information Assurance (IA) and other related components. This project supports the definition and implementation of various aspects of evolving the DII. The evolution of the DII requires coordinated implementation of the DII components to form a coherent global information grid. This project supports definition of the common environments, developing system architecture constructs for the DII and components, providing engineering design and guidance for component evolution, including incorporation of new technology from industry and implementing the infrastructure capability. Subtasks are assigned based on need to address specific technical problems, mitigate risks and take advantage of cross-program synergies.

FY2000 Accomplishments:
  o DII Component Support (1st Qtr – 4th Qtr; $585K)
    - Facilitated and participated in the DMS Industry Panel and Senior Government Engineering Panel to recommend the roadmap for DMS.
    - Completed DOD Directory Roadmap and provided technical support to the DOD and DII COE Directories Working Groups.
    - Defined and evaluated alternatives for the Wideband Gapfiller System (WGS). WGS will serve as the next generation wide-band satellite communications system (SATCOM) architecture for all armed services. It will provide 24-hour wide-band service to tactical subscribers and fixed sites.
   - Provided assessment of the Standard Procurement System (SPS) architecture.

										DATE: June 2001

Exhibit R-2a, RDT&E Project Justification

DATE: June 2001

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NAME AND NUMBER
RDT&E, Defense-Wide/07	DII Engineering & Integration/PE 0302019K	DII Systems Engineering and Support/T62

COST (in millions)	FY00	FY01	FY02						Cost to Complete	Total Cost
Project Cost	1.956	2.206	1.583						Contg	Contg

FY2000 Accomplishments (Continued):
  o DII Integration (1st Qtr – 4th Qtr; $686K)
    - Provided quick assessment of the impacts of Windows 2000 for DII components.
    - Developed and refined evolution strategy for GCSS to integrated Service capabilities.
    - Began support for Provisioning 2000 (P2K). P2K will provide for the receipt, distribution, ordering, allocation, engineering, implementation, tracking and inventory management of communications services and equipment.
    - Facilitated and participated in the Technical Advisory Group (TAG). The TAG focused on Internet Protocol (IP) networks and directories preparation analysis. The group framed the approach to determine the technical way ahead for DOD's IP networks for the next 5 years.
  o GCSS and GCCS Integration (1st Qtr – 4th Qtr; $490K)
    - Developed a SIPRNET Search Engine concept, architecture and implementation plan for integration with GCSS and GCCS.
    - Continued identifying and resolving technical integration areas between current versions of GCCS, GCSS, COE and other DII components.
    - Developed GCCS 4.1 concept and architecture, including integration with GCSS, COE and other DII components.
  o Cross Program Integration Engineering (1st Qtr – 4th Qtr; $195K)
    - Facilitated requirements expression and roadmap inputs across programs that impact DII, including GCCS, DISN, DMS, GCSS, IA, Directories and Enterprise Services management. Facilitation method included sponsoring meetings and hosting a web site for technical information interchange.
    - Performed analysis, hosted sessions and provided technical support for the Program Executive Officer (PEO) Interchange between Army, Navy, and Air Force technical representatives. Focus for FY 2000 was Command and Control (C2) program synchronization, Extensible Markup Language (XML) use, collaborative targeting and evolution. This process set the stage for increased interoperability of C2 systems through information exchange.
  o Total $1.956M

Exhibit R-2a, RDT&E Project Justification									DATE: June 2001	

APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/07			PROGRAM ELEMENT DII Engineering & Integration/PE 0302019K				PROJECT NAME AND NUMBER DII Systems Engineering and Support/T62			

COST (in millions)	FY00	FY01	FY02						Cost to Complete	Total Cost
Project Cost	1.956	2.206	1.583						Contg	Contg

FY2001 Plans:
  o Technical support activities are those needed to develop engineering concepts, provide superior systems analyses, and assess system component designs. The detail of any given engineering task depends upon the status of each component at the particular point in evolution of the Global Information Grid.
  o DII Component Support (1st Qtr – 4th Qtr; $600K)
    - Perform DII component analysis, such as technical issues projected to be of importance to future C2 needs like single sign-on, the DOD white and yellow pages and enterprise search capabilities.
    - Support new and evolving architecture and implementation planning for DII components as necessary.
  o DII Integration (1st Qtr – 4th Qtr; $630K)
    - Facilitate and perform analysis for the Technical Advisory Group (TAG) and perform analysis for an industry-based advisory panel. FY 2001 will complete the Network TAG and continue the work on the sign-on TAG.
    - As requested, perform analysis related to integration within the DII (enterprise-level) components and Service/ Agency-level components.
  o GCSS and GCCS Integration (1st Qtr – 4th Qtr; $605K)
    - Identify and resolve technical integration areas for the versions of GCCS and GCSS under development, including integration with intelligence capabilities and with other DII components as necessary. Continue implementation support for GCCS 4.1 and development of GCCS 5.x architecture
    - Continue implementation support for SIPRNET Search Engine.

Exhibit R-2a, RDT&E Project Justification									DATE: June 2001	

APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/07		PROGRAM ELEMENT DII Engineering & Integration/PE 0302019K				PROJECT NAME AND NUMBER DII Systems Engineering and Support/T62				
COST (in millions)	FY00	FY01	FY02						Cost to Complete	Total Cost
Project Cost	1.956	2.206	1.583						Contg	Contg

FY2001 Plans(Continued):
  o Cross Program Integration Engineering (1st Qtr – 4th Qtr; $371K)
    - Facilitate cross-corporate harmonization of programs relative to the DII and the Global Information Grid (GIG).
      Harmonization identifies areas of technical overlap and opportunities across the Services, and helps to
      synchronize schedules and movement toward greater product integration.
    - Conduct analysis for Program Executive Officer (PEO) Interchange. In FY 2001, plans are to complete analysis
      started in FY 2000 on collaborative targeting, Extensible Mark-up Language (XML) and common COE components.
  o Total $2.206M

FY2002 Plans:
  o DII Component Support (1st Qtr – 4th Qtr; $402K)
    - Perform DII component analysis, such as the use of DII COE components by GCCS and GCSS and the integration of
      certificate authentication into mission applications.
    - Support new and evolving architecture and implementation planning for DII components as necessary.
  o DII Integration (1st Qtr – 4th Qtr: $551K)
    - Facilitate and perform analysis for an industry-based advisory panel. Advisory panels will concentrate on the
      impact of Internet technologies on C2 systems.
    - As requested, perform analysis related to integration within the DII components, and between DII and
      Service/Agency-level components.
  o GCSS and GCCS Integration (1st Qtr – 4th Qtr; $394K)
    - Identify and resolve technical integration areas for versions of GCCS and GCSS under development, including
      integration with intelligence capabilities and other DII components as necessary.
    - Address evolving integration challenges such as Enterprise Services Management.

Exhibit R-2a, RDT&E Project Justification									DATE: June 2001	

APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/07		PROGRAM ELEMENT DII Engineering & Integration/PE 0302019K			PROJECT NAME AND NUMBER DII Systems Engineering and Support/T62					

COST (in millions)	FY00	FY01	FY02						Cost to Complete	Total Cost
Project Cost	1.956	2.206	1.583						Contg	Contg

FY2002 Plans (Continued):

  o Cross Program Integration Engineering (1st Qtr – 4th Qtr; $236K)
    - Facilitate cross-corporate harmonization of programs relative to the DII and the GIG.
    - Participate in and conduct analysis for the PEO Interchange. PEO attention will focus on the next generation of
      C2 systems and the fielding of systems currently in development. Interchange allows DOD to leverage achievements
      and benefit from learning opportunities across the Department.
  o Total $1.583M

B.   Other Program Funding Summary: N/A

C.   Acquisition Strategy: MITRE, McLean, VA.

D.   Schedule Profile:

    FY00 – FY02
        DII component support 1st Qtr – 4th Qtr
        DII integration 1st Qtr – 4th Qtr
        GCSS and GCCS integration 1st Qtr – 4th Qtr
        Cross program integration engineering 1st Qtr – 4th Qtr

UNCLASSIFIED

Exhibit R-3 Cost Analysis	**DATE:** June 2001

APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/07	PROGRAM ELEMENT DII Engineering & Integration/PE 0302019K	PROJECT NAME AND NUMBER DII Systems Engineering and Support/T62

Support Costs:

Cost Category	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Engineering/Tech Svcs	FFRDC	MITRE, Mclean, VA	1.956	2.206	Various	1.583	Various	Contg	Contg	5.745

UNCLASSIFIED

Exhibit R-2a, RDT&E Project Justification									DATE: June 2001	
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/07		**PROGRAM ELEMENT** DII Engineering & Integration/PE 0302019K				**PROJECT NAME AND NUMBER** Modeling & Simulation/E62				
COST (in millions)	FY00	FY01	FY02						Cost to Complete	Total Cost
Project Cost	2.665	4.567	4.961						Contg	Contg

A. Mission Description and Budget Item Justification: The mission of the DISA Modeling and Simulation/E62 project is to support the DOD communications planning and investment strategy for the successful deployment of DOD information systems by performing a broad spectrum of assessment activities in support of C4I programs. DISA has the lead in DOD for providing modeling, simulation and assessment of C4I requirements to DOD decision-makers—from the level of the Office of the Secretary of Defense (OSD) to the warfighter. DISA has achieved this position with services and a suite of analytical tools that are capable of identifying key decision points that impact DOD command and control information systems. This effort is essential to the DISA goal of achieving affordable, quality information services that provide cost-effective products and services. DISA modeling, simulation and assessment efforts support the full range of activities of system planning, engineering, implementation/upgrade, operations, training and security.

DISA modeling, simulation and assessment services and tools will (1) support the key DISA programs of Defense Message System (DMS), Information Assurance (IA), Defense Information Systems Network (DISN), Public Key Infrastructure (PKI) and Defense Travel System (DTS); (2) assess the DISA's ability to support CINCs, JS, Services, and other Federal agencies' current and emerging C4ISR (surveillance and reconnaissance) mission-driven information requirements; (3) enhance the functionality of government-off-the-shelf (GOTS) tools to achieve a superior integrated environment for the modeling and simulation efforts of DISN, DMS, IA, Global Combat Support System (GCSS), Global Command and Control System (GCCS), and PKI; (4) investigate methods linking these models with other GOTS that are used in information network analysis; and (5) explore the available commercial-off-the-shelf (COTS) tools appropriate for developing models that will be used for performance assessment of DOD information system architecture and communications.

FY2000 Accomplishments:
o DISA Program Support provided modeling and analysis for the key DISA programs and initiatives of DMS, GCCS, DISN and DTS. (1stQtr – 4thQtr) $1,200K

o Warfighter & CINC Support provided modeling and simulation assessment to evaluate communications and related systems to support CINCs, and emerging C4ISR mission driven information requirements. (1stQtr – 4thQtr) $600K

Exhibit R-2a, RDT&E Project Justification									DATE: June 2001	

APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/07	PROGRAM ELEMENT DII Engineering & Integration/PE 0302019K	PROJECT NAME AND NUMBER Modeling & Simulation/E62

COST (in millions)	FY00	FY01	FY02						Cost to Complete	Total Cost
Project Cost	2.665	4.567	4.961						Contg	Contg

o C3 Community Support provided DOD decision makers with a suite of modeling tools assessing DOD communication requirements interoperability and evaluating new communication technologies' capabilities. (1stQtr- 4thQtr) $865K

o Total 2.665M

FY2001 Plans:

o DISA Program Support will (a) provide DISN performance assessments for existing and transitioning networks, applications, technology and develop recommendations for network performance improvement, survivability and reliability; (b) conduct end-to-end system performance assessment for DMS, IA, PKI, Provisioning 2000 (P2K) and DTS & (c) build new capability into models/tools to support assessments. (1stQtr - 4thQtr) $1,777K

o Warfighter & CINC Support will (a) provide wartime performance and vulnerability assessments of the US Forces Korea communications infrastructure, and (b) develop a CINC network data collection tool to automate data collection for multiple communication modeling uses. (1stQtr - 4thQtr) $728K

o C3 Community Support Modeling and Simulation (M&S) Tools will evaluate communication and related systems of military campaign outcomes by (a) ensuring availability of network models commensurate with the evolving DISN, (b) enhancing M&S capability to reflect the changing network technology development and incrementally building an integrated M&S tool based on COTS products, (c) supporting business case studies, (d) provide modeling support for the Joint Warfare System (JWARS) for design of "Blue" communication scenarios, and (g) providing continue configuration management support and verification and validation review of Network Warfare Simulation (NETWARS). (1stQtr - 4thQtr) $2,062K

o Total 4.567M

Exhibit R-2a, RDT&E Project Justification									**DATE:** June 2001	

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NAME AND NUMBER
RDT&E, Defense-Wide/07	DII Engineering & Integration/PE 0302019K	Modeling & Simulation/E62

COST (in millions)	FY00	FY01	FY02						Cost to Complete	Total Cost
Project Cost	2.665	4.567	4.961						Contg	Contg

FY2002 Plans:

o DISA Program Support will (a) continue DISN performance assessments for existing and transitioning networks, applications, technology and develop recommendations for network performance improvement, survivability and reliability, (b) conduct end-to-end system performance assessment for DMS, PKI, IA, DTS and GCCS, and (c) build new capability into models/tools to support these assessments. (1^{st}Qtr – 4^{th}Qtr) $1,971K

o Warfighter & CINC Support will provide: (a) wartime performance and vulnerability assessments of the DOD networks for the warfighting CINCs and (b) assessments of the impact of new technology programs on existing or planned DOD networks. (1^{st}Qtr – 4^{th}Qtr) $850K

o C3 Community Support Modeling and Simulation (M&S) Tools will: (a) continue to enhance M&S capability to reflect the evolving DISN network, (b) continue development and incremental builds to an integrated M&S tool based on COTS products end-to-end, and (c) continue configuration management support and verification and validation review of NETWARS. (1^{st}Qtr – 4^{th}Qtr) $2,140K

o Total 4.961M

B. Other Program Funding Summary: O&M Funding ($M)

FY2000	FY2001	FY2002	To Complete
8.219	9.518	10.591	Contg

Exhibit R-2a, RDT&E Project Justification									**DATE:** June 2001	

APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/07	PROGRAM ELEMENT DII Engineering & Integration/PE 0302019K	PROJECT NAME AND NUMBER Modeling & Simulation/E62

COST (in millions)	FY00	FY01	FY02						Cost to Complete	Total Cost
Project Cost	2.665	4.567	4.961						Contg	Contg

C. Acquisition Strategy: Work will continue under existing contract vehicles.

D. Schedule Profile

FY00 - Support key DISA programs, such as DMS, DISN, PKI & GCCS, 1st Qtr – 4th Qtr
        Identify key decision points by ensuring availability of network models, 1st Qtr – 4th Qtr

FY01 – Support to the key DISA programs, especially integrated switching and transmission, 1st Qtr – 4th Qtr
        Perform assessments of advanced technologies, such as Multicast and Multi-Protocol Label Switching, in support of new C2 initiatives, 1st Qtr – 4th Qtr
        Enhance M&S capability to reflect the evolving DISN network, 1st Qtr – 4th Qtr
        Support Joint Warfare System (JWARS), 1st Qtr - 4th Qtr

FY02 - Continue to provide M&S support to the key DISA programs, 1st Qtr – 4th Qtr
        Continue to provide M&S assessment to OSD, CINCs, JCS & Services, 1st Qtr – 4th Qtr

| Exhibit R-3 Cost Analysis | | | | | | | | | | **DATE:** June 2001 |

| APPROPRIATION/BUDGET ACTIVITY
RDT&E, Defense-Wide/07 | PROGRAM ELEMENT
DII Engineering & Integration/PE 0302019K | PROJECT NAME AND NUMBER
Modeling & Simulation/E62 |

Cost Category	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Modeling & Simulation	FFRDC	MITRE, McLean, VA	.750	.200	4/01	0	N/A	N/A	.950	.950
	CPFF	SAIC Arlington, Va.	1.057	1.332	3/01	1.490	3/02	Contg	Contg	3.879
		Various Contracts	.858	3.035	Various	3.471	Various			
Subtotal Product Development			2.665	4.567		4.961				
Total Costs			2.665	4.567		4.961				